Bringing America's Heart to the Seaboard

THE magic wand of progress is to touch the Great Lakes into a fresh water Mediterranean. The seaboard is to be shoved to the heart of the continent. Three thousand miles of coast dotted with rich, productive cities is to be made accessible to ocean-going craft.

Then the hobbles on mid-western industrial development will have been removed.

The West is hurt. Its yearly losses through breakdown of a congested rail system are mounting to staggering sums. Embargoes, spoilage and interruption of industry are squeezing the profits out of factory, farm, mine and mill.

Iowa alone, according to a startling statement by Governor Harding, lost $250,000,000 in 1920 through transportation shortage. Crops could not be moved advantageously; many lines of business were halted and the major trade channels securely plugged. Iowa's dilemma is no different from that of many other western states.

The St. Lawrence deep sea waterway project today looms a beacon on the murky transportation horizon. Economists term it the premier waterway movement of the age.

It would make every lake port a seaport. Down an open road to the ocean would move unhampered the West's bountiful contribution to the world's bread basket. Down this water lane, too, would go fleets laden with slaughtered cattle, hogs and sheep, dairy products, wool, iron ore, copper and coal.

Railroads staggering under an ever-swelling burden would be relieved. Experts say efficiency of the national transportation system would be doubled; profits of agriculture and industry would be enhanced, and industrial power of western centers increased. Hidden resources of mountains and plains would be brought to light, the fuel famine of the seaboard remedied, and the coast and interior drawn to closer trade relations. Rates of transportation would be reduced as much as $10 a ton on some commodities.

And it would all reflect back to the dinner table, to the coal cellar and even to the little white tag on milady's hat in the shop window.

Cost of carrying goods from farm and factory to market, say the economists, is from five to ten times as much by rail as by water. They illustrate in this manner.

A horse hitched to a wagon can haul, at the rate of three miles an hour, two tons.

One horse power with a car on a steel tramway can haul 15 tons.

One horse power in a boat can haul 105 tons.

Before the war the average rail rates were .7 cents a ton mile; the average canal rates .2 to .3 cents a ton mile; the average ocean rates .1 cent a ton mile, and the average lake rates .07 cents a ton mile.

Development of the Great Lakes in the last 20 years may in a measure be understood, when it is considered that traffic exceeds in tonnage that of the Mediterranean and Black seas combined. More tonnage passes Detroit in nine months than sails from New York or Liverpool in a year.

But two natural barriers stand between the lake ports and the open sea. They are Niagara Falls and the rapids of the St. Lawrence River. Traffic is halted just above the falls and freight put on rails at Buffalo for the seaboard or shifted to small boats for passage through the Welland Canal and down Lake Ontario and the St. Lawrence River to Montreal.

The Canadian Government, ever alive to constructive measures, ranging from aid to settlers in the rich Canadian West to good roads and waterway improvements, is building a ship canal which will solve the first problem.

This canal, the fourth Canada has built since 1833 to move craft around the falls, is 25 miles long, deep enough for ocean-going vessels, and with its seven locks will overcome the difference of 326 feet in the levels of Lake Erie and Lake Ontario. The Welland Canal has 26 locks. The new canal will cost $75,000,000. It will be completed in three years and, the experts say, will be used by three American vessels to one Canadian bottom.

The second barrier, the St. Lawrence rapids, presents a simple engineering problem. The rapids start below Ogdensburg, New York, and end with the Lachine Rapids at Montreal. The rapids section of the river extends about 100 miles.

"It is proposed to drown out the upper rapids," said H. C. Gardner, president of the Great Lakes-St. Lawrence Tidewater Association, after the recent inspection trip of American engineers, Congressmen, governors and business men. "The level of Ontario will be regulated by a large dam near Cornwall. It will be 80 feet high and yield a net head of 74 feet minimum for power purposes.

"Two navigation locks at the dam will each be 80 feet wide, 800 feet long and 30 feet deep over the miter sills, and will have a lift of about 37 feet. Unrestricted navigation will be extended from Lake Ontario to the foot of the Longe Sault Rapids."

Below the dam the river channel broadens and forms Lake Francis, 30 miles long, which affords open navigation to the Cedars Rapids. To by-pass these the engineers recommend a channel 300 feet wide and 30 feet deep on the north side of the river. There would be two locks with a lift of 30 feet each. The river broadens again and forms Lake St. Louis, 16 miles long, and then come the famous Lachine Rapids.

"The whole construction," said Mr. Gardner, "would involve about 30 miles of restricted channel with six lifts and three guard locks. This development would net about 1,470,000 horse power at the lowest flow of the river. Power installation recommended would be on Barnhart Island and consist of 52 turbine wheels with electric generators having 36,000 horse power each.

"The total cost of the work, including power development and delivery of the power on the main switchboard, is $252,000,000. If it is decided to make all channels the full depth of 30 feet, $17,000,000 would be added, making the grand total cost of the St. Lawrence seaway $270,000,000."

New York's opposition to the project is slowly waning. The objections raised have been likened to those of the stage coach drivers between New York and Philadelphia in the early days of railroads. "We are unable to keep our coaches full," lamented the drivers. "So how in the world could a railroad pay?"

Experts say New York would be years catching up with traffic demands even if the St. Lawrence seaway were effected at once.

Ten years ago James J. Hill declared the railroads should spend $1,000,000,000 a year for five years in expanding facilities.

Five years later a group of experts reported that if traffic continued to increase for the succeeding 10 years on the basis of the past 20, the railroads would be forced to spend $1,500,000,000 a year, or a total of $15,000,000,000, to meet the demands of agricultural and industrial expansion.

The Central West, judging from statements by representative business men, is realizing the soundness of these predictions and is greatly alarmed over the prospect of a serious transportation snarl with the resumption of normal business and subsequent increased traffic.

Rapidly centers of production are moving west. Indiana is now the center of population; central Missouri is the center of farm acreage; Iowa of farm values; Nebraska of wheat; Illinois of corn; Wisconsin of potatoes; Illinois of butter and swine; Minnesota of iron ore production; Wyoming of bituminous coal reserves, and West Virginia of soft coal production. Eastern Ohio is the center of manufacture, measured by primary horse power, and Pennsylvania is the center of persons engaged in manufacture.

Chicago, half a century ago an overgrown village sprawling along the lake shore, has for years been the world rail center. Thirty-nine roads converge there. Forty per cent of the United States rail mileage terminates in Chicago. No train passes through the city. It either starts or finishes its trip. Last year 15,000,000 carloads of freight were handled through the Chicago terminals.

Chicago is within a night's ride of 50,000,000 persons. It is the focal point of the great productive area, the heart of the continent.

Sixteen states in the district that would benefit by the St. Lawrence waterway project pour part of their products into Chicago. These states produce three-fourths of the wheat of the country, 70 per cent of the corn, and half the cattle, hogs, horses, butter, eggs, cheese and wool. They mine 85 per cent of the iron ore, 40 per cent of the copper and coal, 75 per cent of the zinc and 45 per cent of the lead.

Take grain alone. Chicago has grown from a wagon load market to the hub of the world grain trade. The little brig Osceola carried away the first water shipment of grain one autumn morning back in 1839. The shipment totaled 3,678 bushels. The Chicago Board of Trade, organized by a handful of merchants 73 years ago, the year Chicago received its first telegraphic message, now handles 400,000,000 bushels of cash grain a year, and to carry on this huge business maintains bank balances of $200,000,000. Chicago's elevator space totals 55,000,000 bushels.

Julius H. Barnes, president of the United States Grain Corporation during the war; President Joseph P. Griffin, of the Chicago Board of Trade, and other economists estimate the St. Lawrence seaway would add at least five cents a bushel to all grain produced in the heart of the continent. The saving is placed by some as high as 10 cents.

On a basis of a 10-cent saving on transportation cost to European markets, such reductions, if fully reflected back to the mid-continent farmers, would in Mr. Barnes' opinion add $336,000,000 to the annual income. This is on the theory that the surplus export price determines domestic prices.

Should the farmers benefit only by the modest estimate of five cents a bushel, Mr. Barnes figures it would add $183,000,000 to the agricultural income of the Central West and $22,000,000 to the steadily swelling Canadian farm income.

Before the war, say government statisticians, wheat cost 10 cents a bushel between Chicago and New York, a distance of 1,000 miles. At the same time the average cost between New York and Liverpool, a distance of 3,000 miles, was three cents a bushel. Chicago is 37 miles nearer to Liverpool direct through the St. Lawrence than by rail and water through New York.

Grain is a prime commodity. But from a traffic standpoint equal importance may be attached to the receipt in Chicago and reshipment in part last year of 15,381,001 head of live stock and 2,412,887,000 feet of lumber. Shipments also included huge quantities of steel products, agricultural machinery and furniture. The bulk of the city's manufactured products, aggregating $6,500,000,000, was likewise dumped into the clogged traffic channels.

It is little wonder, therefore, that discontent over traffic conditions is increasing in the Central West. It is mirrored in all commercial activities. In late months it has been crystallizing into determined efforts to hasten the St. Lawrence seaway as a solution.

The railroads themselves recognize the absolute need of greater facilities and a number of high officials have endorsed the St. Lawrence seaway in public statements.

American and Canadian engineers declare that sale of the tremendous hydro-electric power developed at Cornwall would pay the entire cost of the project in a comparatively short time.

Under a plan being considered appropriations from the two governments would not be necessary. A financing corporation for each nation or perhaps a joint corporation would issue government-guaranteed bonds which would be sold to the extent of approximately $15,000,000 a year by each government. This would continue for nine years, the time required to complete the improvement.

The International Joint Commission has not reported on dividing the cost. It is assumed that it will be equally apportioned as to the enterprise and the 1,470,000 horse power development on the international section of the river. Power development on the Canadian side has not been taken up.

"Total traffic originating on Class I railroads in 1918," say the economists of the Great Lakes-St. Lawrence Tidewater Association, "amounted to 2,526,531,000 tons, or 24 tons per capita. On this basis total freight of the territory affected by the St. Lawrence seaway amounts to nearly 1,000,000,000 tons a year.

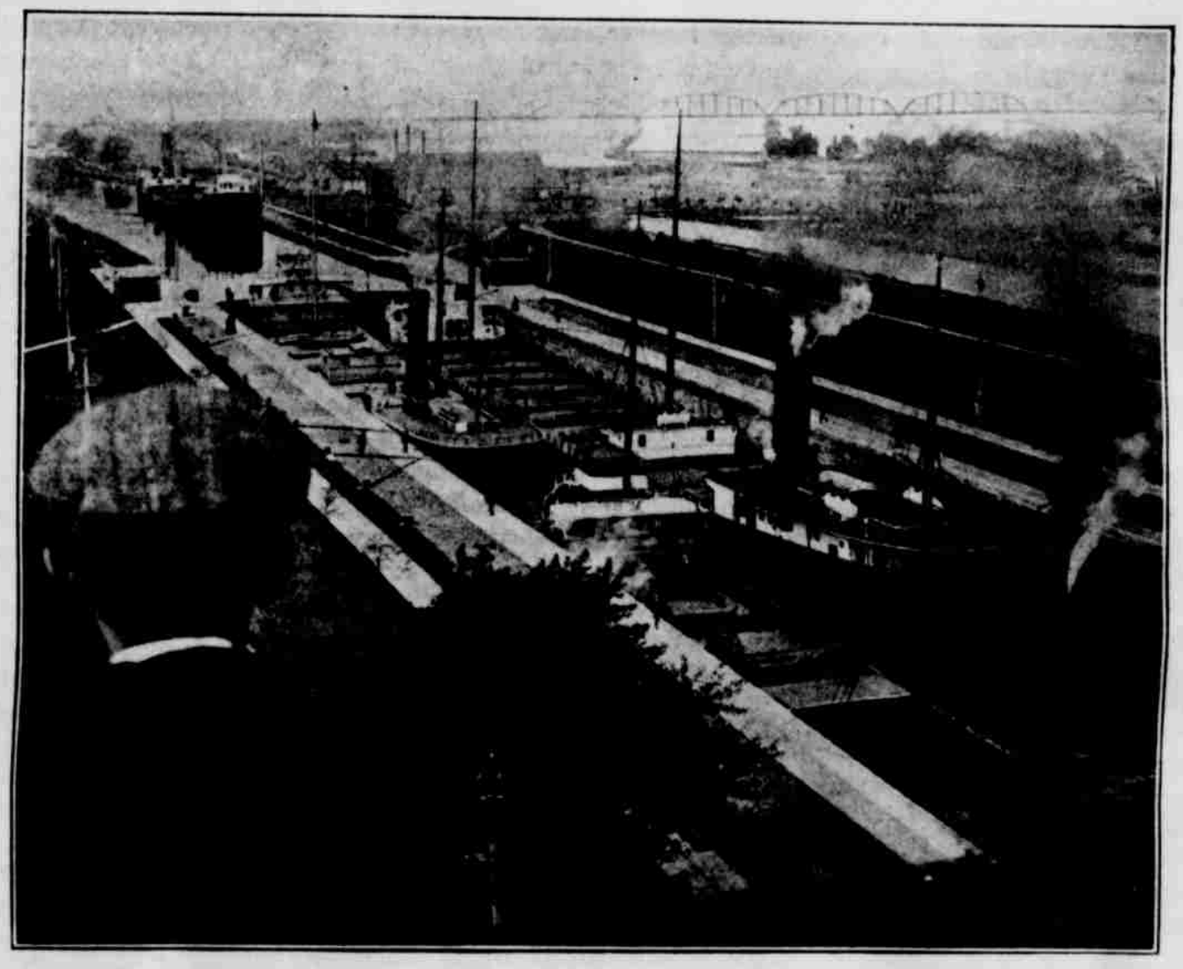
"The greater proportion is purely internal business not directed at seaboard, but there is a heavy foreign commerce as well as domestic commerce for points on or near the seaboard.

"On a basis of population, 28,000,000 tons of exports and 12,000,000 tons of imports originate in the tributary area, which embraces Illinois, Michigan, Wisconsin, Minnesota, Ohio, Indiana, Iowa, the Dakotas, Montana, Idaho, Wyoming, Colorado, Nebraska, Missouri and Kansas.

"Rail traffic in and out of Chicago alone totals 200,000,000 tons without duplication. In a year six of the principal eastern trunk lines carried 561,883,000 tons. The traffic moving to and from points on or near the Atlantic seaboard is estimated at about 250,000,000 tons. It is from this tonnage that the coastwise traffic of the St. Lawrence must be drawn."

To New England the hydro-electric power is the main attraction of the St. Lawrence seaway project. It means industrial expansion and more and cheaper goods for the western market through electrification of new factories and railroads.

With the St. Lawrence seaway opened, say the economists, the Central West would enter a period of unprecedented prosperity marked by tremendous industrial and agricultural expansion.



Soo Canal paid for itself five times in freight saving last season. Estimated grain direct from lake ports to Europe in large bottoms would save farmers of Central West at least $183,000,000 a year.